sible for national health insurance consents to the adoption of the plans of the Research Committee they will be subjected to examination and criticism by the Advisory Council, which is a large and representative body including most of the members of the Departmental Committee. It was appointed by Mr. Lloyd George after receiving suggestions for suitable names from each of the universities of the United Kingdom, from the Royal Colleges of Physicians and of Surgeons, from the Royal Society, and from other public bodies interested in the question. It includes medical representatives of the four National Health Insurance Commissions, and the other Government departments concerned in medical work.

SIR JONATHAN HUTCHINSON, F.R.S.

WHEN the history of modern medicine comes to be written it is certain that Sir Jonathan Hutchinson, who died in his eighty-fifth year at Haslemere on June 23, will occupy a more prominent position than that usually assigned to him by his contemporaries. He had the misfortune to be at work when Pasteur and Lister opened up new, attractive, and practical fields of research, carrying with them all the eager intellects of a younger generation, and leaving the subject of this notice to explore the inexhaustible fields of clinical medicine. From the year 1844, when he was apprenticed to Dr. Caleb Williams, of York, at the age of sixteen, until the day of his death, within a month of finishing his eighty-fifth year, he never ceased to study the manifestations of health and disease, and to place his observations and inferences on record.

Sir Jonathan Hutchinson was an inductive philosopher who patiently and accurately collected facts to provide a sure basis for the principles of scientific medicine. The monument he leaves behind him is seen in the volumes of the "Archives of Surgery," "Atlas of Illustrations of Clinical Surgery," and the hundreds of clinical records which are to be found in medical literature of the last fifty years. He leaves behind him no brilliant discovery to fix his name in the public memory, and yet it may be claimed for him that he did more than any man of his time to solidify the foundations of the surgeon's art.

He was a self-made surgeon, neither the follower nor the leader of any school. It is true that after coming to London in 1850, at the age of twenty-two, he came under the influence of Lawrence and of Paget at St. Bartholomew's Hospital for a few months, but the spirit which dominated him when he ultimately settled in London was the quiet inquiring and observing mood which he acquired in the seclusion of his Quaker home in Selby. Before he was in his thirtieth year he was on the staff of the leading eye hospital (Moorfields), Blackfriars Hospital for Diseases of the Skin, the Metropolitan and the London Hospitals, where he had to deal with all the problems of general surgery.

With those great and varied clinical fields at his disposal he was able, in less than ten years from the time he settled in London, to produce convincing proof that a host of conditions which were regarded as separate diseases were really the remote manifestations of syphilis, and amenable to specific remedies.

The varied and puzzling diseases to which the skin was liable had a special attraction for Sir Jonathan Hutchinson, and it was at an early stage of his career that he began a systematic investigation of the cause and nature of leprosy. In 1859 he came to the conclusion that it was due to eating imperfectly preserved fish, and that the disease was therefore non-contagious and preventable. Fifty years later found him still searching in various parts of the earth for evidence to support his original contention.

The persistency which he applied to the study of leprosy he gave to all the various lines of research he took up. He was a student of growth; he never ceased recording facts and cases which were likely to reveal the principles which regulate the growth and development of the animal body. His lectures at the Royal College of Surgeons in 1881 on the pedigree of disease are happy illustrations of the methods by which he sought to advance this kind of knowledge. He was a surgeon who made a reputation not by the use of the operating knife, but by the application of his intellect to the understanding and cure of disease. He operated with success; he introduced new procedures, but he recognised that recourse to operation was necessitated by the imperfections of the healer's art.

He was an educationist, believing that all teaching should be objective. He did much as chairman of the Museum Committee and as president of the College of Surgeons for the great museum founded by John Hunter; he established and furnished three museums in the Polyclinic (Medical Graduates' College) in Chenies Street, in his native town of Selby, and in Haslemere, where he latterly made his home.

NOTES.

WE heartily congratulate Dr. A. F. R. Wollaston on his return from a successful visit to the Ingkipulu Mountains (Nassau range), Netherlands New Guinea. Last year Dr. Wollaston gave an account of the unlucky attempt of the British Ornithologists' Union Expedition in "Pygmies and Papuans," and quite recently Capt. C. G. Rawling has published another book on the same expedition, "The Land of the New Guinea Pygmies." On the present occasion Mr. C. B. Kloss, curator of the Kuala Lumpur Museum, accompanied Dr. Wollaston, and, in addition to an engineer and five native collectors, they took with them seventy-five "Dyaks," and a large escort was provided by the Netherlands Government. Four and a half months were occupied in reaching the mountains from the coast. The geographical results cannot be worked out for some time. Extensive zoological collections were made which comprise many new species; among them is a very beautiful bird of paradise which may be new. A hitherto unknown tribe of a rather short people of Papuan type were met with at an elevation of some 4000–6000 ft. Despite the very cold nights they wear no clothing. They are mainly collectors and hunters, but also grow sweet-potatoes, tobacco, and sugar-cane. They carry bows and arrows and shoulder-bags containing apparatus for making fire, tobacco, knives, spoons, and other small belongings in true Papuan style. Their knives are made of a hard, slaty stone that can be brought to so keen an edge that bamboos can be cut with them. The people are said to be extremely attractive, most friendly, and in some respects more intelligent than the people on the coast. We await with interest Dr. Wollaston's account of his adventurous journeyings, and sympathise with him in the loss of a considerable proportion of his notes due to the capsizing of a canoe.

A SHAMEFUL outrage has just been perpetrated at the Gatty Marine Laboratory of St. Andrews, the gift of Dr. C. H. Gatty to the University. The laboratory has always been freely open to scientific workers of both sexes without distinction of religion or political feeling, and might therefore have been expected to be immune from attack; yet it has been fired, apparently by militant suffragettes, who have thus destroyed much of the work of members of their own sex. Several large original coloured drawings—all the exquisite work of a lady, the late Mrs. Albert Günther—have been irretrievably ruined by the fire. Fortunately most of the fine original drawings of marine animals made by Mrs. Günther were in the corridor and other rooms, away from the main workroom, and so securely framed that though begrimed with soot, they are practically as before. The coloured and uncoloured plates for the next Ray Society work had been lying for four or five months on a table in an adjoining room, and they also escaped. It appears that on Saturday, June 21, the incendiaries effected an entry by smashing one of the windows on the south side of the laboratory, after plastering it with soft soap and paper. Explosives and combustibles were placed in one of the cubicles and lit, and the perpetrators of the outrage escaped through a window. The print of a small shoe, and suffragette literature stuck between the wall and a rain-pipe, were the only traces left. Fortunately the fire was seen by a fisherman, who gave the alarm, but the large workroom was wrecked and the roof ruined before the firemen obtained control of the fire. We sympathise with the director, Prof. McIntosh, who has always done so much to help on the scientific education of women at the University of St. Andrews.

THE Gustave Canet lecture of the Junior Institution of Engineers will be delivered by Dr. Dugald Clerk, F.R.S., on the working fluid of internal-combustion engines, on Monday evening, June 30, at the Institution of Electrical Engineers, Victoria Embankment, W.C. The chair will be taken by the president, Sir A. Trevor Dawson, R.N.

THE death is announced, in his thirty-fourth year, of Prof. C. C. Poindexter, one of the most promising of the younger negro educational leaders in America. After graduating at Ohio State University in 1903, he spent two years as a graduate student at Cornell. Four years ago he went to Fisk University, Nashville, as assistant-professor of biology, from which post he was promoted, after two years' service, to a full professorship.

THE annual exhibition of antiquities discovered during excavations at Meroë, Sudan, carried out in connection with the Institute of Archæology, University of Liverpool, will be held in the rooms of the Society of Antiquaries, Burlington House, Piccadilly, W., from Tuesday, July 8, to Friday, July 18, inclusive. The exhibits will include decorated pottery vases, objects of faience and of bronze, intaglio-rings, &c., plans and photographs, and copies of frescoes and sketches in colour.

IT was announced in the issue of NATURE for May 29 (p. 338) that of the 100,000*l*. bequeathed by the late Sir J. Wernher, Bart., for charitable and educational purposes, 5000*l*. was a grant to the Institution of Mining and Metallurgy. At a recent meeting of the institution, the president, Mr. Bedford McNeill, announced that Lady Wernher had added a second 5000*l*., making a total of 10,000*l*. The only condition attached is that Lady Wernher desires that the principal sum shall remain intact as an aid in permanently strengthening the institution. The income is to be devoted to the ordinary purposes of the institution.

THE *Japan Chronicle* reports the death, at St. Petersburg, on May 27, at fifty-one years of age, of Dr. Shogoro Tsuboi, professor of anthropology at the Tokyo Imperial University. The deceased, who had been attending the meeting of the International Association of Academies at the Russian capital on behalf of the Japanese Academy, was regarded as the greatest authority on his subject in Japan. In 1884 he established the Tokyo Anthropological Society, and started a vernacular magazine which has done much to further the development of the science in Japan. Dr. Tsuboi was an honorary member of our Royal Anthropological Society, and a corresponding member of the Berlin and Paris Anthropological Societies.

THE sixth of the series of International Fishery Congresses, established at Paris in 1900, is appointed to be held at Ostend on August 18–20, under the patronage of his Majesty the King of the Belgians. The Board of Agriculture and Fisheries has arranged to be represented officially at the congress, and has also sent a fisheries exhibit to the International Exhibition now being held in Ghent, of which the section devoted to fisheries will be closely associated with the congress. It is hoped that British fishery interests will be fully represented at the congress, and all interested in fish and fishing and the various related industries, and in the studies connected therewith, are invited to take part in the proceedings, by the reading of papers and otherwise. The subscription for members, giving the right to take part in the discussions and excursions, and to receive the publications of the congress, has been fixed at 10 francs (8*s*. 4*d*.). Full particulars can be obtained from the general secretary to the congress, Kursaal, Ostend, Belgium, direct, or through the Board of Agriculture and Fisheries, 4 Whitehall Place, London, S.W.

THE annual congress of the Royal Sanitary Institute is to be held this year at Exeter on July 7–12, under the presidency of Earl Fortescue, who will deliver the inaugural address. A popular lecture on imported foods from a Colonial point of view will be given by Sir John McCall, Agent-General for Tasmania. Sir William Collins will lecture to the congress on "The Chadwick School of Thought: An Appeal from the New Sanitarians to the Old." The work of the congress will be divided into four sections, which, with their presidents, will be:—Sanitary Science and Preventive Medicine, Mr. A. Wynter Blyth; Engineering and Architecture, Mr. H. P. Boulnois; Domestic Hygiene, Mrs. Michelmore, Mayoress of Exeter; Hygiene of Infancy and Child Study, Mr. E. J. Domville. During the meetings the following associations will hold conferences:—Municipal representatives, medical officers of health, engineers and surveyors to county and sanitary authorities, veterinary and sanitary inspectors.

THE report of the council of the Concrete Institute, recently presented at the annual general meeting, shows a gratifying increase in membership, and an increasing interest in everything pertaining to the theory and practice of construction in concrete, plain and reinforced. The science committee has under consideration a system of standard notation for calculations in structural engineering, and also, in conjunction with the reinforced concrete practice standing committee, a proposed standard specification for reinforced concrete work. Among other work in hand the committee is investigating the effect of oils and fats on concrete, and the adhesion of and friction between concrete and steel. The practice standing committee of the institute has drafted reports on the surface treatment of concrete, and cracks in concrete, which were submitted for discussion at a general meeting, while the committee on tests has many matters under investigation, including the collection of data regarding the moduli of elasticity of concrete for stresses within working limits. The activity of the institute is a healthy sign of the attention which English engineers are giving to the vast possibilities of reinforced concrete, already more fully developed and realised in some other countries.

MR. STEFÁNSSON'S expedition has started for the Beaufort Sea, and will be followed with intense interest by all interested in polar exploration. It means to attack the last great problem of the Arctic. It has been maintained by certain authorities of the highest standing that there is an extensive land to be discovered in the Beaufort Sea quadrant, but the question has long been disputed. Mr. Stefánsson hopes to settle it, and is giving himself nearly four years in which to do so. There will be much occasion for scientific research, and these are days of large scientific staffs on polar expeditions. The staff of the present expedition numbers no fewer than fifteen, and if land is discovered and the expedition is in proper state to take advantage of the discovery, there will be unsurpassed opportunities for scientific work. So far as it is possible to judge in advance, the leader of the expedition appears to expect moderately favourable conditions for the voyage northward from the North American Arctic coast. With easterly winds a clear sea is practically assured; westerlies will pack the ice. It is believed that a condition of balance between these two extremes is to be expected, and the resulting conditions should not offer serious obstacles to a well-tried vessel under so well experienced a commander as Captain Bartlett.

IN the House of Commons on June 18 Mr. Cathcart Wason asked what percentage of men have failed with the colour-vision tests introduced on April 1, and how this percentage compares with that of former years; and how many men have passed with the wool test and failed with the lantern test, and *vice versâ?* The Parliamentary Secretary to the Board of Trade (Mr. Robertson) replied:—"The total number of men examined in colour vision from April 1 to May 31 was 1689, and of these 105, or 6·22 per cent., failed. Of the 105 failures, fifty-five failed in both the wool test and lantern test, and fifty in the lantern test only. None failed in the wool test only. I regret that it is not possible to give corresponding figures for previous years, since the statistics available for previous years relate to examinations, and not to individuals. I may mention, however, that in 1912, out of 7326 examinations in colour vision, 163, or 2·22 per cent., resulted in failure. The figures for the two periods are not comparable, both because of the difference of basis and because the Board of Trade have reason to believe that the number of candidates examined in the last two months includes an abnormal proportion of persons who have never been examined before, among whom, naturally, the percentage of rejections is disproportionately high."

THE committee of the twelfth International Geological Congress has now issued the third and final general circular. Applications to join excursions have been received more rapidly than was anticipated, therefore intending participants should delay no longer. Delegates appointed by universities, &c., are reminded that their application for membership should be sent in at once. The monograph on coal resources will be issued in three volumes (not two) and folio atlas—price, to members, 20 dollars, if ordered from Morang and Co., Toronto, before August 15. Changes are announced in several excursion programmes. Excursion A9 will start from Kingston at the foot of Lake Ontario. The visit to the Dinosaurian bone beds near Munson, Ex. C1, may not be possible, but those who specially desire to visit the deposits should advise the secretary. The Sudbury ore region will be visited on Ex. C1, in order that participants in excursions C1 and C2 may meet in Victoria, B.C., on August 26. Special attention is directed to Ex. C5 on account of its many attractions, including a "show" by native Indians on Grand Manitoulin Island. Ex. C8, Juneau-Yakutat section, will afford a unique opportunity for studying active glacial phenomena. Particulars are given of reductions in railway fares in Canada and the United States, and a list of hotels with their charges is provided.

THE Chemical Industry and Engineering Exhibition at the Agricultural Hall, which was opened by Lord Desborough last week, is an interesting and successful development of a similar exhibition held two years ago. Its essential aim is to give chemical manufacturers an opportunity of inspecting the most recent forms of machinery and appliances rather than to display the actual products of chemical manufacture, although a number of the latter, of a more special character, are included. The bulk of the floor-space is accordingly allotted to apparatus and machinery, of which a large proportion is concerned with the transport and treatment of the products dealt with in chemical industries. Acid-resisting materials of so-called "passive" iron ("Ironac" and "Tantiron"), and acid-proof stoneware suitable for pipes, pumps, valves, taps, the cascade concentration of acids, &c., are prominent in this connection, together with a number of new forms of air-compressors, boiler-furnaces, and vacuum drying apparatus. Safety appliances for use in works are also well represented. These include safety-helmets, face-masks, respirators, &c., and a variety of appliances for life-saving and first-aid in case of accidents. The exhibits of chemical products comprise a well-selected collection of mercurials, bismuth compounds, and other pharmaceutical preparations, an exhibit designed to show the progressive stages in the manufacture of coal-tar colours from the raw materials to the finished dyestuffs, and such varied products as china clay, hydrogen peroxide preparations, and materials for the generation of acetylene. Good exhibits of laboratory apparatus are contributed by a number of well-known firms, and an exceptionally interesting collection of old glass apparatus which had been in actual use by Brandt, Hennell, and Warington has been loaned by the Society of Apothecaries. Mr. Walter F. Reid has acted as president of the exhibition, Mr. Thos. Tyrer as chairman of the advisory council, and Mr. F. W. Bridges as organising manager.

THE *Daily Malta Chronicle* of May 31 reports a lecture delivered by Mr. Francesco Calleja on the early culture of the island. He laid stress on the importance of Phœnician influence, and quoted a number of words to prove that the Greek language was largely indebted to the Semitic tongues. These are positions which many modern archæologists decline to accept. For instance, Mr. D. G. Hogarth is inclined to regard the Phœnicians as mere huckstering traders, who followed sea-ways long before opened by others; and Dr. Farnell shows that Babylonia exercised practically no influence upon Greek cults and beliefs. On the philological side, until the Minoan inscriptions collected by Sir A. Evans are interpreted, it is premature to postulate the origin of the Ægean languages; and when the new material is available it will probably be found that Phœnician influence is much less important than the lecturer is inclined to believe.

Naturen for May contains an obituary notice, with a portrait, of Vilhelm Ferdinand Johan Storm, late conservator of the zoological collections of the Klg. Norske Videnskapsselskaps, who died on May 19 of the present year. Dr. Storm, who was born on September 28, 1835, took an active part in the affairs of the museum for more than fifty-seven years.

As a supplement to the second edition of his "Herpetologia Europæa" (Jena, G. Fischer), of which a notice appeared in NATURE at the close of 1912, Dr. E. Schreiber has published a German translation of the Latin diagnoses of the various genera and species of reptiles and amphibians given in the original work.

ACCORDING to the June number of *The Museums Journal,* the executive committee of the Museums Association is endeavouring to enlist the services of members of that body possessing expert knowledge of particular subjects—both in science and art—for the purpose of naming specimens that may be submitted to them by members and associates. Several gentlemen have already consented to undertake these duties, and it is proposed, if the scheme is well taken up, to publish lists of the names of the experts in *The Museums Journal.*

THE very remarkable success that has attended the appointment of personal guides at the British Museum and its Natural History branch in Cromwell Road induced Lord Sudeley to inquire in the House of Lords of his Majesty's Government on April 29 whether arrangements could not be made for a similar system of popular instruction in other museums and institutions in the metropolis. The motion was supported, on behalf of the Education Committee of the London County Council, by Lord Greville, and was also favourably received by other speakers. It was, however, pointed out that there were certain difficulties in the case of the National Gallery on account of students' days, and in the Wallace Collection owing to the limited amount of standing room.

IN the recently published volume of the Journal of the Royal Agricultural Society for 1912, Mr. A. D. Hall discusses the value of soil analyses to the farmer. He shows the anomalous results often obtained by a chemical examination of the soil, and deals at greater length with the importance of a better knowledge of the physical conditions in the soil. Although chemical methods may indicate certain manurial requirements of any given soil, a more trustworthy pronouncement as to its suitability or otherwise for the growth of particular crops can only be made after a soil survey.

A COMPREHENSIVE survey of the conditions of the date-sugar industry in Bengal and an account of its chemistry and agriculture are contributed by Messrs. H. E. Annett, G. K. Lele, and Bhailal M. Amin to the Memoirs of the Department of Agriculture in India (vol. ii., No. 6, 1913). Covering as it does such a wide range of questions, and being to a large extent technical in character, it is not possible to do justice here to the greater part of the paper. Much interest, however, attaches to the suggestions for future improvements, among which may be mentioned the introduction of the Palmyra palm, so that the production of sugar by this and the date palm would extend over the whole year. In this way the erection of large central factories might be rendered possible. Consideration of the amounts of sugar obtainable from various sugar-yielding plants shows that greater quantities are to be expected from the date palm than from sugar cane in this district, and that the average yield of the former per tree is about seven times that of the sugar maple. Greater output of sugar and greater purity of product would also accrue from the disinfection of the tapped surface and of the collecting vessels by means of formalin.

THE whole of vol. xxii., part i., of the Memoirs of the Indian Meteorological Department is devoted to tables containing monthly and annual rainfall normals at all stations maintained by the Imperial and provincial Governments where records for at least five years are available. There is no discussion attached to this very valuable mass of materials, but the number of years over which the data extend has been given for each station, in order that an estimate may be formed of the trustworthiness of the results. As might be expected from other publications of the department, some of the figures are very remarkable. Among the average annual amounts may be mentioned:—Cherrapunji (Assam), 426 in.; Málkompeth (Satara, Bombay), 274·8 in.; Launglon (Burma), 234·3 in.; Rújanpur (Punjab), 3·7 in.; Rohri (Sukkur, Bombay), 3·1 in.; Jhatput (Baluchistan), 3·0 in. At "stations outside the Indian land area" still smaller values are quoted: 2·7 in. at Aden, 2·5 in. at Bahrein (Persia) and at Perim (Asiatic Turkey).

THE October, 1912, number of the *Sitzungsberichte* of the Vienna Academy of Sciences contains a short paper by Dr. W. Altberg, of Odessa, on the use of the resistance offered by a small sphere to the passage of a current of gas past it as a measure of the velocity of the gas. He used a steel sphere 0·6 cm. diameter, suspended by a metal filament 0·0025 cm. diameter, 75 cm. long, in the centre of an air duct through which a stream of air of known velocity could be passed. The deflection of the suspension from the vertical was measured by means of a microscope reading to 0·001 cm. The author finds that the arrangement is easily set up, adjusts itself almost instantaneously to changes of velocity, and allows velocities from 70 to 270 cm. per second to be determined with accuracy by means of the relation shown by Becker to hold for lower velocities, *i.e.* the resistance offered by the sphere is the sum of two terms, the first representing Stokes's law—resistance proportional to the radius of the sphere, the velocity and viscosity of the medium—the second representing Newton's law—resistance proportional to the square of the radius, the density and the square of the velocity of the medium.

THE *Verhandlungen* of the German Physical Society for April 30 contain a preliminary account of the measurements made by Dr. R. Reiger, of the University of Erlangen, on the effect of introducing exploring electrodes of various kinds into the positive column of the discharge through a vacuum tube. The change in appearance of the discharge was studied by photography, and the effect on the total fall of potential down the tube was measured. As a result the following conclusions are drawn:—In the immediate neighbourhood of the exploring electrode free electric charges are produced, and the total fall of potential is increased by an amount which increases with the diameter of the electrode and with the gas pressure in the tube. The material of the electrode and whether it is covered with glass or not make little difference for small electrodes, but for those of large diameter metals produce greater disturbances than insulators. On both anode and kathode sides of the electrode there are large falls of potential, that on the anode side being the greater. This produces serious errors when observations with double electrodes near together are made. In all cases it is advisable to use as thin exploring electrodes as possible.

WE have received an illustrated pamphlet of seventy pages, by Herr Walther Dix ("Das selbstgefertigte Lichtbild," Quelle and Meyer, Leipzig, price 1 mark), which seems to indicate that even in Germany it is desirable to urge the advantages of photography and its applications in connection with the teaching and the study of chemistry and physics. The author divides his subject into sections, and gives examples of the various uses of photography, after referring shortly to methods of making lantern-slides and paper prints. He says that photographs can well illustrate the details of various pieces or series of apparatus and the methods of using them; the methods of experimental work; the arrangement of important technical installations, if possible, by way of preparation for a visit to the works; the latest progress in connection with recent discoveries that the student deals with in his course of study; and the graphic representation of various matters, as by curves, which, by showing clearly the points to be demonstrated, will make them more easily remembered. The examples given are taken from many different sources and well illustrated.

A REMARKABLE advance in the preparation of "conductivity water" is described by Mr. R. Bourdillon in the Transactions of the Chemical Society. In the case of one sample of water, which was stored in a vacuous vessel during five years in contact with platinum electrodes, the conductivity was reduced by Kohlrausch some years ago to 0·04 gemmho; but when the water is to be used in contact with air it has been regarded as a high standard to attain to a conductivity as low as 1 gemmho in ordinary laboratory practice. The production by Bousfield of unlimited quantities of "gemmho water" by continuous fractional distillation of tap-water satisfied this requirement admirably. A further substantial improvement was subsequently effected by fractionally distilling the product under reduced pressure. In Mr. Bourdillon's apparatus the fractionation is intermittent and not continuous, but by passing purified air through the steam as it condenses a large middle-fraction amounting to 6 or 7 litres can be collected with a conductivity of the order of 0·1 gemmho. Such highly purified water cannot be used in contact with air, but in an enclosed vessel (protected by a current of purified air whenever it is opened) the rise of conductivity is only 0·004 gemmho per hour in contact with clean electrodes, or 0·01 gemmho in contact with electrodes that have recently been used for dilute salt-solutions. The value of this new development in measuring the conductivity of very dilute solutions is too obvious to require further emphasis.

The second number has reached us of a new periodical, *Zeitschrift für Betonbau*, dedicated to the science of construction in reinforced concrete; it contains descriptions of various works carried out in this material, besides theoretical investigations from various engineers. The most novel feature of this number is a description of a swimming bath 25 metres long and 12 metres wide, containing 510 tons of water. This is supported on three points on the top of low piers, and is housed in a large building, the construction of which is described. A large bridge near Pressburg, with one span of 30 metres and another of 18·40, is described, and the computations of bending moments and reactions leading to the determination of the necessary reinforcement are set out very fully. The character of this paper bears ample testimony to the thorough manner in which Austrian and German engineers are taking up the designs of structures in this material.

Engineering for June 20 contains an illustrated account of the Hamburg-Amerika liner *Imperator*. This vessel left the mouth of the Elbe on Wednesday, June 11, for her first regular voyage. Her dimensions are approximately 50,000 tons register, 880 ft. in length, 98 ft. in beam, and 63 ft. in depth from main deck to keel. The depth from the upper boat-deck to keel is 101 ft. 8 in. The *Vaterland* was launched recently for the same company, and a third sister vessel is on the stocks; these vessels will be only slightly greater than the *Imperator*. The horse-power of the latter is 62,000, derived from Parsons turbines, and the speed is 22·5 knots. The vessel is equipped with eighty-three boats, sufficient for 5500 people, *i.e.* 300 more than she will carry, counting both passengers and crew. The boat-lowering gear is very complete; there is one electric motor on the boat-deck for every three boats, and there are special arrangements for maintaining horizontal the boat while being lowered. In addition to the commodore, the ship carries four captains, who have commanded large steamers successfully, and one of these will be always on watch, while the fourth takes general control of the crew.

The Cambridge University Press has arranged for the issue of a series of volumes under the general title of "The Cambridge Psychological Library," to be edited by Dr. C. S. Myers, University lecturer in experimental psychology and director of the psychological laboratory. Among the volumes already arranged are:—"Psychology," Prof. James Ward; "The Nervous System," Prof. C. S. Sherrington, F.R.S.; "The Structure of the Nervous System and the Sense Organs," Prof. G. Elliott Smith, F.R.S.; "Psychology in Relation to Theory of Knowledge," Prof. G. F. Stout; "Mental Measurement," Dr. W. Brown; and "Collective Psychology," Mr. W. McDougall, F.R.S.

Messrs. John Wheldon and Co. have just issued an ornithological catalogue containing titles and other particulars of more than 1500 books and papers, and including selections from the libraries of several eminent ornithologists.

OUR ASTRONOMICAL COLUMN.

Astronomical Occurrences for July:—

July 1. 15h. 26m. Saturn in conjunction with the Moon (Saturn 6° 30′ S.).
3. 16h. 0m. Venus at greatest elongation west of the Sun.
5. 3h. 0m. Jupiter at opposition to the Sun.
,, 13h. 39m. Mercury in conjunction with the Moon (Mercury 3° 49′ S.).
7. 3h. 0m. Mercury at greatest elongation east.
16. 15h. 29m. Jupiter in conjunction with the Moon (Jupiter 4° 47′ N.).
18. 13h. 0m. Neptune in conjunction with the Sun.
,, 13h. 49m. Uranus in conjunction with the Moon (Uranus 3° 24′ N.).
20. 6h. 0m. Mercury stationary.
21. 12h. 52m. Venus in conjunction with Saturn (Venus 1° 18′ S.).
28. 3h. 12m. Mars in conjunction with the Moon (Mars 5° 41′ S.).
,, 20h. 0m. Uranus at opposition to the Sun.
29. 6h. 12m. Saturn in conjunction with the Moon (Saturn 6° 42′ S.).
,, 19h. 30m. Venus in conjunction with the Moon (Venus 7° 40′ S.).

Minor Planets.—The April number (vol. ix., No. 9) of *The South African Journal of Science* contains an article by Mr. Robert T. A. Innes, entitled "The Minor Planet MT. 1911: and on Minor Planets in General." The Union Observatory at Johannesburg devotes a considerable portion of its time to these small bodies, and the work it does is shown in relation to the minor planet problem in general. This article will be found of particular interest to those whose astronomical work lies in other directions, for Mr. Innes writes generally on the subject of these bodies, and particularly of MT. 1911. To mention one or two points of prominent interest, he states that in 1893 no minor planet would be given a permanent number until five observations were available, but to-day such a number is not allotted until observations spread over six weeks are available, and a satisfactory orbit is computed. Reference is made to Eros, to the nearly simultaneous publication of Sir David Gill's result of the solar parallax determination from observations of the minor planets Victoria, Iris, and Sappho, the value he obtained being 8·802″±0·005″, and to Hinks's value of 8·806″±0·004″ from his fine Eros work. Dr. Metcalf's method of minor planet search, that of guiding the telescope so that the plate remains approximately at rest with regard to the usual motion of the minor planet while the stars trail, is mentioned, and numerous other important items, such as the different groups of minor planets, the arrangements for organised effort, the discovery of Palisa's MT. 1911, and its subsequent rediscovery.

Cordoba Catalogue of 5791 Stars.—Dr. C. D. Perrine, in the twentieth volume of the Results of the